REMARKS

This responds to the Office Action mailed on November 22, 2004.

Claims 1, 2, 5, 9, 15, and 26 are amended, claims 12-14 and 18-25 were previously withdrawn; as a result, claims 1-30 are now pending in this application.

§103 Rejection of the Claims

Claims 1, 3-9 and 11 were rejected under 35 USC § 103(a) as being unpatentable over Greene et al. (U.S. 5,670,993) in view of Emerson et al. (U.S. 6,664,969). It is of course fundamental that in order to sustain an obviousness rejection that each and every step or element in the rejected claims must be taught or suggested in the proposed combination of references.

Independent claims 1 and 9 have been amended to include asynchronous sending a modified region of a frame buffer to a display device or to include asynchronously generating write commands from modified regions of a frame buffer. Asynchronous operations are not taught or suggested in the cited references individually or in combination with one another. Accordingly, the rejections with respect to independent claims 1 and 9 and their corresponding dependents should be withdrawn.

More specifically, Green is directed to a display refresh achieved from a screen memory. In Green, the approach is not a sparse refresh; rather, the technique which is taught is a *complete* refresh. *Emphasis Added.* Each bit of an image includes a flag in memory which indicates whether a particular bit has changed or not changed; however, the entire image within memory is scanned and each bit must be processed during a refresh operation. Green, col. 4, lines 43-50.

Efficiency is achieved in Green because a non-modified bit does not have to be rewritten during a refresh; but, that non-modified bit still needs to be evaluated and processed from the screen memory. Because Green processes all bits of an image within screen memory during its complete image refresh operation, there is no need or desire to account for asynchronous writing from the screen memory to the display because an entire image is processed during each complete refresh operation and not just a selective portion of an image that may have other portions dynamically changing when a refresh occurs. Consequently, the teaching of Green is limited to synchronous refreshes from screen memory to a display. However, Applicants

amended independent claims clearly teach asynchronous refreshes because Applicants' invention performs sparse refreshes and not complete refreshes.

Emerson is directed to techniques for updating video graphics to a remote console independent of a specific operating system. The approach taken in Emerson specifically utilizes a *synchronous frame buffer. Emphasis Added.* Emerson, col. 5, lines 46-58. Emerson uses synchronous DRAM. In fact, a complete reading of this paragraph and the surrounding context of Emerson details that Emerson relies on synchronous DRAM for its frame buffer. This is believed beneficial because it allows "convenient linear access to . . . frame buffer[s] for all video modes, including legacy video graphics array (VGA) modes." Emerson, col. 5, lines 55-58. Emerson had no desire to use an asynchronous approach because to do so would not have allowed Emerson to integrate with legacy VGA architectures and applications. Thus, Emerson does not teach asynchronous coordination between frame buffers and display devices, as is taught and positively recited in Applicants' amended independent claims.

According, neither Green nor Emerson standing alone or in combination with one another teaches asynchronous coordination between a frame buffer and a display device. Therefore, the rejection of independent claims 1 and 9 and their dependent claims should be withdrawn.

Claims 2, 10, 15-17 and 26-30 were also were rejected under 35 USC § 103(a) as being unpatentable over Greene et al. (U.S. 5,670,993) and Emerson et al. in view of Perego (U.S. 5,835,082). Again, each and every step or element must be taught or suggested in the proposed combination of references.

With respect to claims 2 and 10, these claims are dependent from amended independent claims 1 and 9. Thus, for the amendments and remarks presented above with respect to claims 1 and 9, the rejections with respect to claims 2 and 10 should be withdrawn.

Independent claims 15 and 26 now positively recite asynchronous writes or copies, these limitations are not taught in Green, Emerson, or Perego. In fact, the opposite is true in that the references specifically teach synchronous communication between frame buffers and displays. The support for this conclusion was presented above for the Green and Emerson references and support for this conclusion with respect to the Perego reference is supplied below.

Perego is directed to video refresh compression techniques. Perego does not alter the traditional approach of synchronous coordination between a frame buffer and a display device; rather, Perego intercepts and compresses pixel data as that data is sent from a frame buffer to a display device. *E.g.*, Perego, Abstract; Perego, col. 2, lines 11-15. The technique is to maintain previous frames in a compressed format and then to recall them when they are not changed for subsequent refresh operations. Perego does not teach or suggests any asynchronous frame buffer coordination with a display device as is positively recited in Applicants' amended independent claims 15 and 26. Thus, the rejection with respect to claims 15 and 26 and there corresponding dependents should be withdrawn.

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney, Joseph Mehrle at (513) 942-0224, or Applicants' below-named representative to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

THOMAS E. WILLIS ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
Attorneys for Intel Corporation
P.O. Box 2938
Minneapolis, Minnesota 55402
(612) 373-6970

Date February 22, 2005

By _____
Charles E. Steffey
Reg. No. 25,179

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 22 day of February 2005.

Chris Hammond

Name

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Signature